

AMENDMENTS TO THE CLAIMS

1. (currently amended) A process for preparing ethylene polymers carried out in the presence of a catalyst system comprising (i) a solid catalyst component comprising Mg, Ti, halogen, and optionally an internal electron donor compound (ID), and (ii) an Al-alkyl compound; said process comprising at least two steps of polymerization (a) and (b), in which:
 - in a first step (a) ethylene is polymerized in the presence of a molecular weight regulator in order to produce an ethylene (co)polymer; and
 - in a further step (b), which is carried out in the presence of an external electron donor compound (OD) selected from aliphatic ethers, esters and alkoxysilanes, added to this polymerization step as a fresh reactant, ethylene is copolymerized with an alpha olefin comonomer of formula $\text{CH}_2=\text{CHR}$, in which R is a C1-C20 hydrocarbon group, to produce an ethylene copolymer having a molecular weight higher than that of the ethylene (co)polymer produced in step (a),wherein the polymerization is carried out in the gas phase, and the ethylene polymers comprise an MIF/MIP ratio from 10 to 50.
2. (original) The process according to claim 1 in which the solid catalyst component (i) comprises a Ti compound and a magnesium dihalide.
3. (currently amended) The process according to claim 21 in which the solid catalyst component (i) further comprises an internal electron donor compound (ID) selected from alcohol, glycols, esters, ketones, amines, amides, nitriles, alkoxysilanes and ethers.
4. (previously presented) The process according to claim 3 in which the internal electron donor compound (ID) is tetrahydrofuran or ethylacetate.
5. (previously presented) A process for preparing ethylene polymers carried out in the presence of a catalyst system comprising (i) a solid catalyst component comprising Mg, Ti, halogen, and optionally an internal electron donor compound (ID), and (ii) an Al-alkyl compound; said process comprising at least two steps of polymerization (a) and (b), in which:
 - in a first step (a) ethylene is polymerized in the presence of a molecular weight regulator in order to produce an ethylene (co)polymer; and

- in a further step (b), which is carried out in the presence of THF as an external electron donor compound (OD) added to this polymerization step as a fresh reactant, ethylene is copolymerized with an alpha olefin comonomer of formula $\text{CH}_2=\text{CHR}$, in which R is a C1-C20 hydrocarbon group, to produce an ethylene copolymer having a molecular weight higher than that of the ethylene (co)polymer produced in step (a), wherein the polymerization is carried out in the gas phase, and the ethylene polymers comprise an MIF/MIP ratio from 10 to 50.

6. (canceled)
7. (previously presented) The process of claim 1 in which the polymerization steps (a) and (b) are carried out in two fluidized bed reactors.
8. (previously presented) The process of claim 1 in which the polymerization step (a) is carried out in a fluidized bed reactor, and the step (b) is carried out in a gas-phase reactor having two interconnected polymerization zones.
9. (original) The process according to claim 1 in which the polymerization step (a) is carried out in the presence of hydrogen.
10. (previously presented) The process according to claim 1 in which the alpha-olefin comonomer used in polymerization step (b) is selected from 1-butene, 1-pentene, 1-hexene, 4-methyl-1-pentene, 1-heptene and 1-octene.
11. (previously presented) The process according to claim 1 in which the alkyl-Al compound (ii) is selected from trialkyl aluminum compounds.
12. (original) The process according to claim 11 in which the trialkyl aluminum compound is used in mixture with alkylaluminum halides.
13. (previously presented) The process according to claim 1 in which the components (i), (ii), and optionally the external electron donor compound (OD) are pre-contacted before being introduced into a reactor, for a period of time ranging from 0.1 to 120 minutes at a temperature ranging from 0 to 90°C.
14. (previously presented) The process according to claim 1 in which in the polymerization step (a) is produced an ethylene polymer having a density not less than 0.955 kg/dm³ and in the copolymerization step (b) the copolymer produced has an average molecular weight ranging from 100000 to 1,000,000 g/mol.
15. (canceled)

16. (new) The process according to claim 1 in which the external electron donor compound is selected from C2-C20 aliphatic ethers.
17. (new) The process according to claim 16 in which the external electron donor compound is selected from cyclic ethers having 3-5 carbon atoms.
18. (new) The process according to claim 17 in which the external electron donor compound is tetrahydrofuran (THF).